The Truth About Process Loss Costs

Maj. Dan Ward, USAF ■ Maj. Chris Quaid, USAF ■ Capt. Gabe Mounce, USAF

A guy comes back from Vegas and brags he won $10,000 at a slot machine. Impressive, right? Sure, until you discover it was not his first pull … nor his last. And he doesn't mention the airfare, hotel costs, taxi rides, poker losses, and other expenses uniquely associated with his trip. He may have had a good time in Vegas, but chances are, he didn't actually make any money there (at least, not once we look at the whole picture).

In a similar way, process-oriented methodologies, such as business process reengineering or its successor, business process management (BPM), are widely lauded for turning organizations into process enterprises and bringing significant efficiencies to a wide range of activities, from manufacturing to logistics to developmental and operational testing. Process-oriented approaches are also increasingly applied to the full range of business activities, including customer relations and research and development. Advocates like to cite statistics such as a 21-percent reduction in processing time or a 45-percent increase in request handing throughput. That all sounds impressive at first blush.

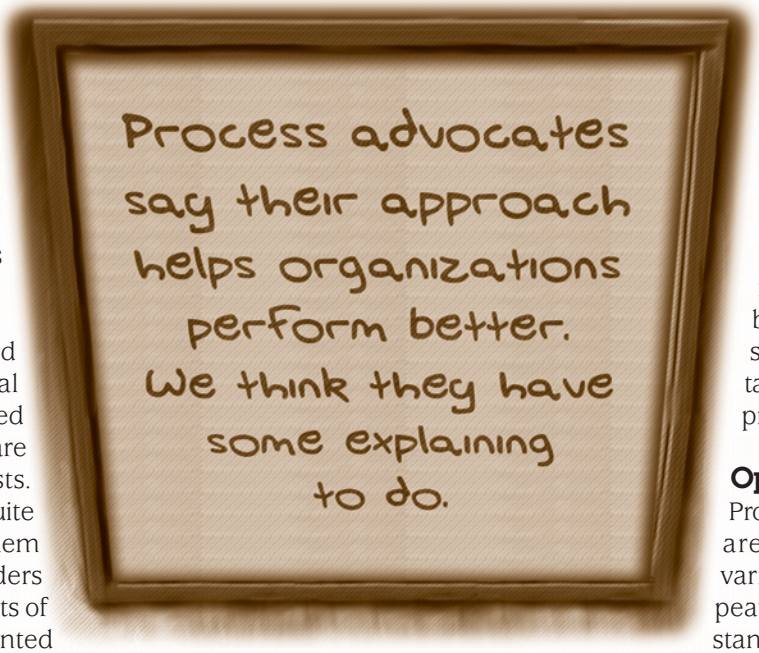
However, as Michael Pollan pointed out in his book *The Omnivore's Dilemma*, "Once science has reduced a complex phenomenon to a couple of variables, however important they may be, the natural tendency is to overlook everything else." And in all this discussion of increased efficiency, often overlooked in the equation are the costs associated with process, which we call the process loss cost (PLC).

In a 2002 white paper entitled "The Business Process (Quiet) Revolution: Transformation to Process Organization," Meir Levi, CEO of Interfacing Technologies Corporation and a widely recognized leader in the business process revolution, makes a rare acknowledgement that

Ward, *currently a student at the Air Force Institute of Technology studying systems engineering, holds degrees in electrical engineering and engineering management. He is Level III certified in SPRDE and Level I in PM, T&E, and IT.* **Quaid** *currently works for the secretary of the Air Force, Office of Special Projects. He holds a Master of Business Administration degree and a Level II COTR certification.* **Mounce** *holds an advanced degree in electrical engineering from the Air Force Institute of Technology. He is Level I certified in T&E and PM.*

Illustration by Jim Elmore

"the transition to a Process Enterprise takes a concentrated level of effort … [and] may take several months," but he stops short of actually addressing the PLC in a meaningful way. That's where we come in.



The PLC, as we've defined it, is the sum of several distinct sub-costs (detailed below), many of which are repeating, long-term costs. These sub-costs can be quite large, and ignorance of them leads organizational leaders to overestimate the benefits of becoming a process-oriented enterprise.

Overhead Costs

The most obvious of the PLC components, overhead costs should be the easiest to measure, if one is so inclined. The BPM approach, for example, includes five steps, each of which carries a cost: design, modeling, execution, monitoring, and optimization. To this list, we could add documenting, training, discussing, modifying, enforcing compliance, and other similar activities.

The overhead costs also include hiring consultants and/or establishing in-house expertise in the discipline of the process techniques and philosophy. For example, the Six Sigma process improvement technique uses people known as Black Belts, who are expected to devote 100 percent of their time to Six Sigma. Like most experts, they don't come cheap.

Further additions include the cost of introducing the methodology's fundamental concepts to the workforce and training all the employees on the specific new processes. For example, we found a nine-day series of process seminars at a cost of $8,700 per person. We even found a 50-minute process DVD for sale at the low, low price of $699. The purpose of the DVD is to "make crystal clear the full range of payoffs" associated with becoming a process enterprise, and to "help persuade those still uncertain about process." We suggest it makes sense to understand the payoffs *before* spending $699. In fact, we think persuasive advertisements about the benefits of something should probably be free.

Last and certainly not least, overhead costs include costs of specialized software used to perform process-related activities. Forrester Research estimates that spending on BPM software (including licenses, services, and maintenance) will grow from $1.2 billion in 2005 to more than $2.7 billion by 2009. Not negligible—and hardly ever mentioned when discussing the benefits of process-oriented methodologies, probably because the people measuring the benefit don't talk to the ones paying the price.

Opportunity Costs

Process-oriented approaches are focused on reducing variation and increasing repeatability, consistency, and standardization. Dr. Michael Hammer, the erstwhile founder of the business process reengineering movement, explains it this way: "People are doing process work when they follow a precise design rather than improvising." He also explains that "a process design … specifies exactly what is to be done by whom, when, and where."

Opportunity costs, therefore, include opportunities lost or delayed as a result of the presence of situations the process does not anticipate or is ill-equipped to deal with —situations that require improvisation or deviation from the norm. This includes overlooking or bypassing new customers, suppliers, markets, methods or techniques which do not fit the process, or which would require a greater degree of flexibility or personal initiative than the process provides allowance for.

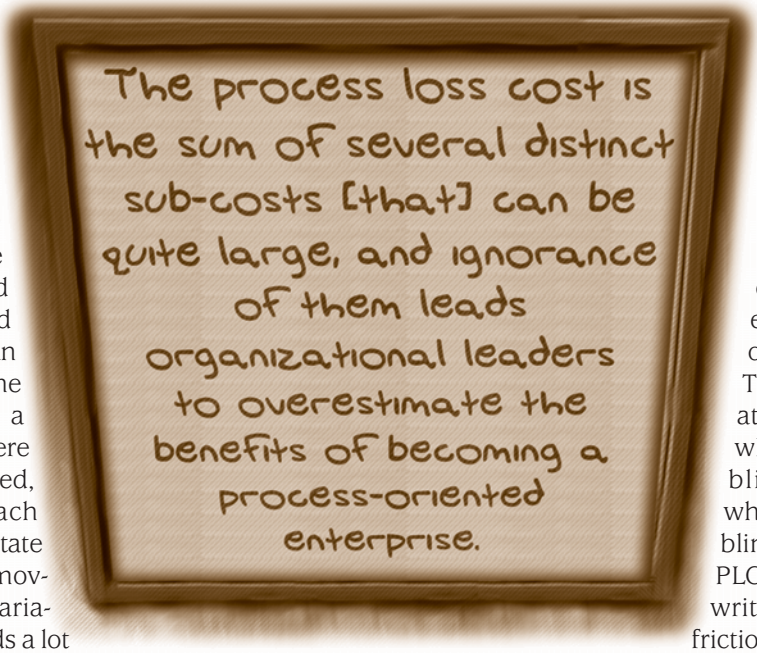
When a defect is defined as "nonconformity of a product or service to its specifications," as it is in Six Sigma, we run the risk of seeing even an improvement as a defect. That might make sense in a manufacturing environment, but in other contexts, it incurs a cost. Those costs are not easy to measure but are, nonetheless, quite real.

Opportunity costs also include misapplication costs, which are the result of a mismatch between the preferences of the established process and the actual demands of the current business environment (internal or external). They include the cost of poor outcomes caused by forcing a square peg into a round process hole. Not only do process advocates ignore these costs, but some actually say the lack of improvisation and variation is a benefit to the organization and its customers.

Pinhead Cost

As *Scientific American* magazine pointed out in 1856, when a worker's task is precisely and narrowly defined—

when the what/who/when/where are strictly specified, when improvisation is forbidden, and when variation is frowned upon (such as with a factory worker manufacturing pins)—the worker's "powers of mind will dwindle, and his head becomes … no larger than that of one of the pins he makes. He ceases to be a man, and becomes a mere tool." As already explained, Hammer's BPM approach uses precise design to dictate the what/who/when, removing improvisation and variation. The end result sounds a lot like the pinhead-producing structure *Scientific American* warned against more than 150 years ago. The worst part is that a majority of the pinhead cost is paid by the organization's employees and only indirectly by the organization itself. This is yet another case of benefits and costs being realized by different parties.



Process advocates naturally deny the existence of the pinhead cost and frequently object that those who have the gall to mention it simply misunderstand what process is all about. However, we are not willing to ignore the man behind the curtain, no matter how much the giant head of Oz protests.

By their own admission, process-based approaches to organizational behavior are inherently focused on uniformity in terms of both organizational outcome and employee behavior. The process enterprise's demands for repeatability and conformity of human behavior stunt workers' development, repress talent, and stifle initiative. People learn through variation and exploration, not through simple repetition. Take away improvisation and experimentation, and you undermine learning. The end result is an apathetic and underdeveloped workforce. Aside from the ethical concerns of treating people this way, it also diminishes the pool of future leaders—and even the most ardent process advocate must admit *that*'s not a good thing for the organization.

Lest there be doubt as to the tendency for process enterprise leaders to treat people this way, Hammer himself suggests that senior leaders use their clout to "compel the participation of all constituencies." That's not exactly an enlightened approach to leadership and doesn't support the assertion that process is about empowerment, encouraging creativity and initiative, or otherwise valuing and developing employees. Quite the opposite.

These components of PLC are often hidden, ignored, or otherwise denied. They are not discussed openly, and apparently they are not taken into account by process advocates when calculating the promised efficiencies of a process-oriented methodology. This is misleadingly sloppy at best and reminiscent of what Michael Pollan calls blind-man's accounting, which turns a conveniently blind eye to certain costs. If PLC is thought of at all, it is written off as negligible, like friction in a high school physics problem. But the truth is, in some situations PLC can be large and persistent. It should not be ignored.

For example, it might cost an enterprise 10 units to accomplish a particular task before implementing a process-based methodology. Using BPM or a similar approach, the organization now accomplishes the same task at a cost of five units. Process advocates therefore calculate a savings of 50 percent by neglecting to account for the PLC. However, let's say the overhead cost is three units, the opportunity costs are another three units, and we end up with a PLC of six units. Accomplishing the task now has a net cost of 11, not five units. This approach actually ends up costing more than the original 10 units. If the task is repeated, the opportunity costs can be expected to persist or even increase, and the pinhead cost is likely to rise over time as well.

This is an admittedly simplistic and notional example, not based on any actual data. It is entirely possible—perhaps even likely—that in most cases, the PLC will be less than the BPM benefit, in which case the process approach provides real savings to the organization. We aren't saying process doesn't help—we simply want to increase awareness of the costs associated with process-based approaches. As with anything, when determining the degree of benefit, we need to look at all the factors, not just the favorable ones. To what extent PLC can be minimized is an open question, largely because the actual costs have not been extensively examined or measured. The point of this article is not to offer a quantified assessment of this cost, because the PLC will be different for each situation. Our objective is simply to point out that PLC exists.

Our investigations in this area indicate that process is most helpful (and the PLC is minimized) in a static, simple environment where the objective is to provide standard-

ized, repeatable outcomes. In this situation, many components of the PLC are one-time costs. But in a dynamic environment where change is frequent and where custom, unique outcomes are desired, PLC has the potential to go through the roof. Organizational behaviorists refer to this as "non-routine" work—defined in the book *Organizational Behavior*, by Michael Hitt, C. Chet Miller, and Adrienne Colella, as situations where there is "significant variation in the fundamental nature of problems over time, requiring new methods to find unique solutions." We suggest that non-routine, dynamic work is both ill-suited to the process treatment *and* more prevalent in modern work environments than the process advocates care to admit.

Ironically, some process advocates and practitioners subtly cite PLC, without using the term, as a reason to disallow deviations or changes from established processes. They argue that the cost of changing the process exceeds the benefit of the deviation, so they turn down opportunities for innovation and exploration (thus paying an uncalculated opportunity cost). At the same time, they trumpet the efficiencies brought about by their standardized, repeatable processes. This is circular reasoning—sometimes PLC is too large to allow changes, and sometimes PLC is so small it can be ignored. It is all very convenient, and frankly, it is unbecoming of the scientifically minded process advocates, who are supposed to value comprehensive data, accurate measurement, and rigorous analysis.

The existence of a PLC does not mean we should reject or abandon all process-oriented approaches to improving business performance. Process is not the problem—an undue focus on process is the problem—and calculating the benefits without counting the costs is just silly. We are simply pointing out that PLC should be acknowledged, examined, discussed, and accounted for. This bears repeating: In many cases, perhaps even most cases, PLC will not exceed the benefits of a process-oriented approach, although the pinhead cost alone is potentially exorbitant and must be studiously minimized. There are ways to decrease each of these sub-costs within a process approach, once we are aware of them, and good process approaches do just that.

Interestingly, in the course of researching this article, we informally and non-scientifically contacted several (unnamed) BPM consulting organizations, asking for information about the typical costs and investments required to become a process enterprise. In almost every case, we quickly received a friendly "We are working on your request," sometimes automated and sometimes personally generated. In every case, that was the last we heard. Not a single consultant or organization offered even a single data point as to the costs. We are beginning to suspect a conspiracy of silence.

Despite claims by Dr. Levi and others that "the only way to achieve such sustainable customer satisfaction and results is to become a process organization," there are meaningful and effective alternatives to the process approach—for example, Tom Peters' Professional Service Firm model, or the approaches used at Ricardo Semler's Semco or Sir Richard Branson's Virgin (which we have mentioned in several previous articles). Let's call these "organic methods," in which the focus is on developing talent rather than developing processes. With their emphasis on ingenuity and individual's unique abilities, organic methods are particularly useful for non-routine work.

Organic alternatives (such as James Bach's heuristic-based performance improvement, to name yet another) have costs as well, but they are quite different from those of the PLC, and upon initial inspection, the costs appear smaller. The benefits of organic approaches may also be smaller, but the real question is which provides a greater net gain. A rigorous review of alternative approaches and their associated benefits and costs is well beyond the scope of this article—maybe we'll work on that one next. But for now, we are content to point out that process is not the only game in town, and respectfully reject Hammer's pronouncement that "the future belongs to the process enterprise."

For all the talk of costs and benefits, the truth is that neither the costs nor the benefits of process methods have been accurately and comprehensively gauged. In fact, we probably cannot meaningfully measure a lot of this with any degree of precision or resolution—and don't get us started on the question of causality. Further, the things we can (and do) measure only tell a part of the story—if they tell any story at all. So we are not necessarily saying PLC is high, just that it is grossly underreported, largely unmeasured, and virtually unmentioned. And that's not a good thing. Perhaps the neglected PLC explains why, according to *Fortune* magazine, "of 58 large companies that have announced Six Sigma programs, 91 percent have trailed the S&P 500 since." Yikes!

Process advocates say their approach helps organizations perform better. We think they have some explaining to do because so far they have only told half the story. Maybe one of them will write an article in response to our charges of sloppy thinking, incomplete math, and misleading claims. Because they claim their approach is so useful, the burden of proof is clearly on them. It's long past time someone offers actual evidence of the benefits and the full costs inherent in their approach.

The authors welcome comments and questions and may be contacted at daniel.ward@afit.edu, chris.quaid@gmail.com, and gabemounce@earthlink.net.